



Facilities Recapitalization Front-End Assessment

Department of Defense
August 2002

This study was conducted at the request of the Under Secretary of Defense (Comptroller). It identifies a standard metric for tracking facility recapitalization rates in the Department of Defense and recommends procedures for collecting and processing the data needed to use the metric in program and budget development. The study was led jointly by three organizations in the Office of the Secretary of Defense—the Office of Program Analysis and Evaluation, the Office of the Under Secretary of Defense (Comptroller), and the Office of the Deputy Under Secretary of Defense for Installations and Environment. A working group composed of representatives from the four military services and key defense agencies resolved issues, provided information, coordinated with an array of specialists, and assisted in the preparation of this report.

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Executive Summary

This study responds to a request from the Under Secretary of Defense (Comptroller) for an analysis of facility recapitalization metrics used in the Department of Defense (DoD).¹ Conducted in support of the FY 2004-2009 programming and budgeting cycle, the study:

- Evaluates the methods currently employed by DoD to calculate the rate at which facilities are recapitalized (i.e., renovated or replaced); and
- Recommends a uniform metric that could be applied Department-wide to compute this rate.

In 2001, the Secretary of Defense directed that DoD components fund facilities to achieve a 67-year recapitalization rate. At that time, no single tool was employed DoD-wide to calculate the recapitalization rate associated with programmed funding levels (i.e., the funded recapitalization rate). Each component used its own metrics and accounting constructs to perform these computations, although for the most part, the methods employed were quite similar. Implementing the Secretary's guidance required the development of a standard metric that would be relatively transparent within the programming and budgeting process. Several major challenges had to be overcome to achieve that goal.

One challenge was properly parsing funding sources so as to identify what portion of funds within each source is devoted to recapitalization. For example, military construction funding may be used for at least two purposes: to recapitalize existing facilities or to grow the inventory of facilities by funding "new footprint" construction. When the FY 2003-2007 programming and budgeting process commenced, there was no consistent way to parse and track this funding.

A second challenge was linking the facilities the Department planned to recapitalize with the organizations that had recapitalization responsibility for them. While, collectively, the three military departments maintain real property records for virtually all DoD facilities, each department is not necessarily responsible for recapitalizing all of the facilities encompassed in its property holdings. For example, the Army has recapitalization responsibility for facilities on some naval bases, and defense agencies frequently have recapitalization responsibility for facilities on Army or Air Force installations. DoD's real property databases were not designed to recognize these important distinctions, which are critical to computations of the funded facilities recapitalization rate.

A third challenge was linking individual facilities to the types of funding used to recapitalize them (e.g., military construction, procurement, operations and maintenance). While, by and large, facilities can be segregated into five groups, each having a primary source of recapitalization funding (military construction, family housing, nonappropriated, procurement, or

¹ Under Secretary of Defense (Comptroller) memorandum, "Facilities Recapitalization Front-End Assessment for the FY 2004-2009 Program Budget Cycle" (April 11, 2002).

foreign and international funds), each of these groups also has secondary funding sources, such as the operations and maintenance (O&M) accounts and defense working capital funds. Some of these secondary sources do not have mechanisms for identifying the share of annual expenditures devoted to recapitalization.

The Facilities Recapitalization Metric (FRM) recommended by this study provides a uniform mechanism for tracking investments in “mainstream” recapitalization programs—that is, programs financed by the military services and larger defense agencies through the military construction accounts, augmented in some cases with O&M or working capital funds. The FRM was developed by establishing clear rules as to what would be counted as recapitalization funding and what would be defined as new footprint funding in the military construction accounts. Interim business rules were refined to allow funding responsibilities to be linked to facilities reflected in real property records. Additionally, minor modifications were made to existing program/budget data mechanisms to allow for the collection of funding data that had proved problematic to gather in the past.

In its current form, the FRM can be used to calculate recapitalization rates for 78 percent of the facilities in the DoD inventory. With improved data-collection procedures, the metric eventually could be applied to most of the remaining facilities. Facilities not yet covered by the metric fall into specialty areas, such as family housing and properties that are recapitalized with foreign, international, or other nonappropriated funds. Actions required to expand the application of the metric to these facilities are discussed on pages 8 and 9 of the report; a more detailed discussion is provided in Appendix C.

It is important to note that the recapitalization metric proposed by this study is one element of a larger construct that has been under development in DoD since 1999. This construct encompasses restructured program elements as well as new performance metrics for facilities sustainment, restoration, and modernization (S/RM). The new S/RM construct is meant to solve long-standing problems in determining funding requirements for facilities. It supports the Government Performance and Results Act as well as the Chief Financial Officers Act.

The FRM provides a DoD-wide solution to the problem of properly sizing investments in the recapitalization of facilities. The study did not identify any alternative metrics that could provide comparable levels of coverage. The FRM, however, always should be used in conjunction with the Facilities Sustainment Model. Special considerations apply when using the FRM to assess programs at lower levels of detail (e.g., for small components or homogeneous groupings of facilities). Additionally, the Installations Readiness Report may be a useful source of information to supplement the data generated by the FRM.

Purpose of the Analysis

The purpose of this assessment is to develop a standard metric for measuring the funded facilities recapitalization rate within the Department of Defense, and to propose procedures for collecting and processing the data needed to use the metric in the program and budget development process.

Key Terminology

Sustainment. Maintenance and repair activities necessary to keep an inventory of facilities in good working order. Includes regularly scheduled maintenance as well as anticipated major repairs or replacement of components that occur periodically over the expected service life of the facilities. Due to obsolescence, sustainment alone does not keep facilities “like new” indefinitely, nor does it extend their service lives. Lack of full sustainment results in a reduction in service life that is not recoverable in the absence of recapitalization funding.

Recapitalization. Major renovation or reconstruction activities (including facility replacements) needed to keep existing facilities modern and relevant in an environment of changing standards and missions. Recapitalization extends the service life of facilities or restores lost service life. It includes the restoration and modernization of existing facilities but not the acquisition of new facilities or the demolition of old ones (unless the demolition is carried out as part of a renovation project or in conjunction with construction of replacement footprint elsewhere).

Recapitalization Rate. The number of years required to regenerate a physical plant—either through replacement or major renovation(s)—at a given level of investment.

Expected Service Life (Recapitalization Target). The number of years that facilities would be expected to provide adequate performance, *given full sustainment*, before wearing out or becoming obsolete. Usually applied as an average to an inventory of facilities. In the absence of incremental recapitalization investments, facilities typically must be replaced or extensively renovated at the end of their expected service life.

Background

Sustainment and recapitalization of facilities is a relatively new construct for DoD. Prior to the 1999 front-end assessment of facilities maintenance and repair, each DoD component used its own metrics, terminology, and accounting structures to manage facility programs. The 1999 front-end assessment called for the development of DoD-wide facility sustainment and recapitalization metrics. At the direction of the Program Review Group, development of the FRM was temporarily deferred so that available resources could be dedicated to the development of the Facilities Sustainment Model (FSM).

Upon the FSM's implementation in 2001, development of a recapitalization metric became the principal priority. In April 2002, the recapitalization metric front-end assessment was launched to complete the work begun in 1999.

The S/RM Construct

The 1999 front-end assessment resulted in a dissection and revitalization of the programs, metrics, terminologies, and account structures used by DoD to sustain, restore, and modernize facilities. “Real property maintenance”—which previously had been an indecipherable mixture of sustainment, recapitalization, demolition, and new footprint (funded by minor construction)—was carefully separated into measurable elements. Military construction projects—which in the past had been categorized as either “new mission” or “current mission” and had been considered independently of recapitalization-related operations and maintenance (O&M) funding—were reorganized into “new footprint” and “recapitalization” categories and linked to related O&M investments. The “BMAR” (backlog of maintenance and repair) metric was permanently retired. This restructuring permitted a more meaningful application of performance metrics to benchmarks and provided a more comprehensive approach to determining annual investment levels.

This earlier work allowed for a “cross-appropriation” view of facilities recapitalization that reflected the combined effects of O&M, working capital, and military construction resources. More broadly, it resulted in a new “S/RM” construct for analyzing and budgeting for facilities sustainment, restoration, and modernization.

The S/RM construct is an outgrowth of several years of research into “best practices” outside DoD. Much of this research has been summarized by the National Research Council in a book titled *Stewardship of Federal Facilities: A Proactive Strategy for Managing the Nation's Public Assets*.² Also, the S/RM construct represents, in part, DoD's response to problems identified in a 1999 General Accounting Office report on real property management practices in the Department of Defense.³ Finally, the S/RM construct has been structured to support and strengthen DoD's compliance with the Government Performance and Results Act and the Chief Financial Officers Act.

S/RM theories are based on the general assumption that facility performance degrades as facilities age. The rate of decay depends in part on the level of sustainment provided. Other contributors include the materials used in a facility's construction, weather, and creeping obsolescence caused by changes in standards and missions. With full sustainment, facilities achieve their full potential and deliver acceptable performance over their expected service lives. Thus, S/RM theory posits that full sustainment is the most cost-effective approach to managing facilities because it gains the most performance over the longest time for the least investment. This concept is illustrated in Figure 1.

² National Research Council, *Stewardship of Federal Facilities: A Proactive Strategy for Managing the Nation's Public Assets* (Washington, DC: National Academy Press, 1998).

³ U.S. General Accounting Office, *Military Infrastructure: Real Property Management Needs Improvement* (GAO/NSIAD-99-100, September 1999).

The facilities performance curve under full sustainment typically is displayed as an average for an inventory of facilities, which presents a smooth performance degradation line over time. A well-sustained inventory gradually declines in performance—due primarily to aging of materials and obsolescence—and at some point (estimated to be 67 years in the case of DoD’s inventory) becomes inadequate (see Figure 1). It is important to note that the estimated 67-year average service life of DoD facilities will decline if investments fall below the levels required to achieve full sustainment.

The “smooth” degradation curve for an inventory of facilities is, however, often not intuitive to owners of individual facilities. Individual facility owners know that an appropriate sustainment program includes the periodic replacement of major components (e.g., heating, ventilation, and air conditioning systems) or the refurbishment of interior spaces—actions that produce a temporary increase in overall performance. For an individual facility, the performance curve under full sustainment is really a “saw tooth” shape caused by small, momentary increases in performance, followed by a general decline in performance for the overall facility, as shown in Figure 1. Full sustainment alone does not change the overall slope of the curve for a single facility, nor does it change the average slope for an inventory of facilities, because sustainment in and of itself cannot compensate for the aging of structural materials, obsolescence, mission changes, the imposition of more rigorous standards, or “acts of God” such as hail damage.

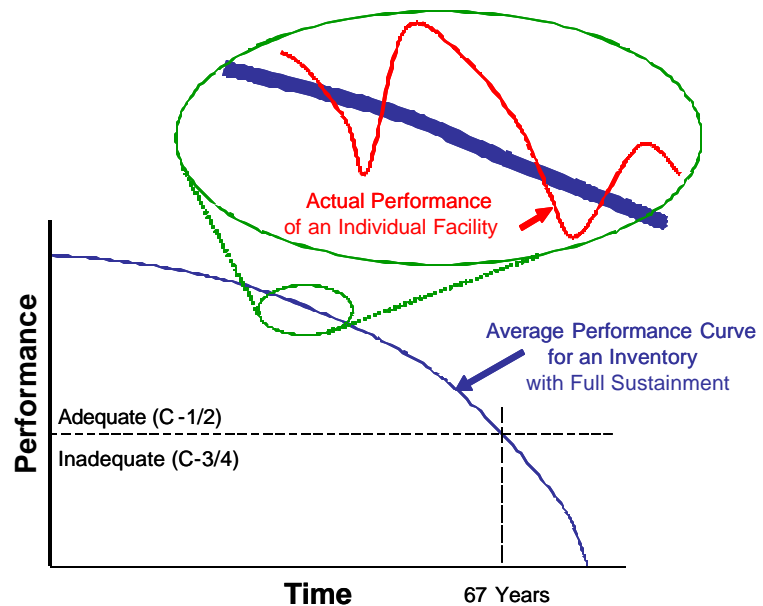


Figure 1: Facilities Performance Over Time

Even with full sustainment, facilities eventually either physically wear out or become obsolete. An obsolete facility is one that is irrelevant to present-day missions regardless of its condition—an example is a firehouse built in 1930 that is too narrow or too short to accommodate modern fire trucks. The number of years at which facilities would be projected to wear out or become obsolete is called *expected service life*. According to the S/RM construct, once facilities reach the end of their expected service lives, they must be replaced or extensively renovated or modernized (i.e., they must be recapitalized) if they are to continue providing adequate performance. Alternatively, recapitalization investments can be made periodically throughout a facility’s service life, which has the effect of extending service life and delaying the need for replacement. In considering the relationship of sustainment to recapitalization based on service-life benchmarks, two key points must be borne in mind:

- Recapitalization investments renovate and replace facilities, but do not sustain facilities as measured by FSM benchmarks.
- Expected service life is reduced by a lack of full sustainment, creating new restoration requirements and the need for premature recapitalization.

Recapitalization is a combination of restoration and modernization. Restoration returns performance to original levels or, alternatively, to the level defined by the normal degradation curve. Modernization, on the other hand, raises performance to a new level, beyond the original level. An example is the incorporation of force-protection enhancements into modernization projects at defense facilities. The modernized facilities will perform better, due to the addition of force-protection features, than they did originally. This result is depicted in Figure 2.

Under recent investment strategies, DoD's recapitalization investments were insufficient to offset the loss of service life caused by a lack of sustainment. Even after recapitalization investments were made, performance would rapidly decline in the absence of full sustainment.

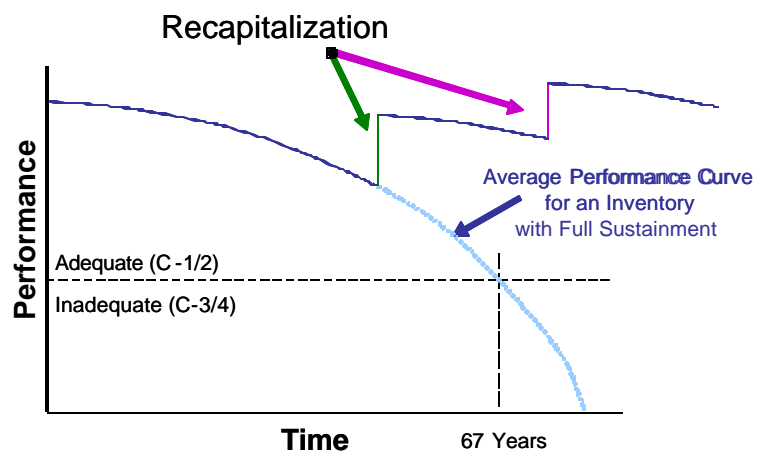


Figure 2: Facilities Restoration and Modernization

With an improved S/RM-based strategy, DoD would forecast its required inventory and then:

- Fully sustain its assets and stem the loss of service life.
- Establish a recapitalization investment stream tied to average expected service life (67 years).
- Where appropriate and affordable, buy back lost service life in the near term.

The Recapitalization Rate Metric

The recapitalization rate is the number of years it would take to regenerate a physical plant—either through replacement or major renovation(s)—at a given level of investment. The formula depicted below is used to calculate the facilities recapitalization rate for each year of the Future Years Defense Program (FYDP). The results are then compared against service-life benchmarks. The basic formula is:

$$\text{Recapitalization Rate} = \frac{\text{Value of Assets (plant replacement value)}}{\text{Investment}}$$

A fundamental challenge to successful utilization of the recapitalization rate metric is the compatibility between the numerator and denominator of the formula. In essence, the assets in the numerator and the resources in the denominator must be linked to the same set of facilities. Failure to achieve that linkage has, in the past, produced erroneous recapitalization rates, confusion, and justifiable concern about the reliability of the metric.

The numerator of the formula is the plant replacement value of facilities that DoD intends to recapitalize (PRV_R). It represents assets that have a continuing mission (i.e., facilities that will not be disposed of and so will need to be replaced or renovated at some point). The numerator excludes any assets recapitalized by resources outside the investment pool in the denominator.

The denominator of the formula is the recapitalization investment programmed for the physical plant reflected in the numerator. The sum of all funding from various sources defines the basic facilities recapitalization investment pool. For example, the basic form of the metric has always included:

- Military construction funds used to renovate or replace (recapitalize) existing facilities.
- Planning and design funds that support the recapitalization of existing facilities.
- All unspecified minor construction funds.

More recently, additional funds have been identified and assigned to the recapitalization investment category. They include:

- Operations and maintenance resources that contribute to recapitalization.
- Defense working capital fund (DWCF) revenues that pay for recapitalization.⁴
- Military pay appropriations that support recapitalization.

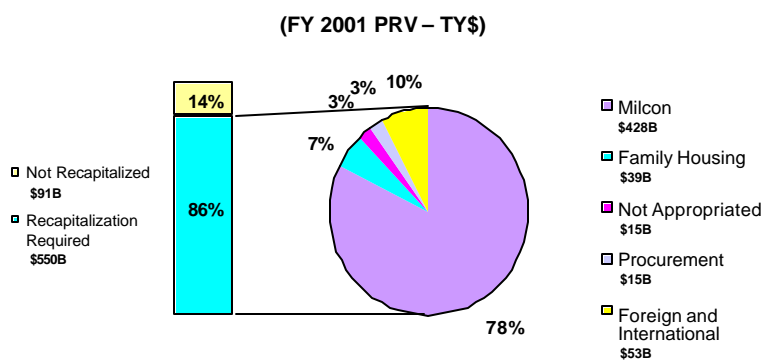
⁴ The Defense Working Capital Fund combined, into a single business management fund, commercial or business operations that previously were managed as individual revolving funds. The Fund Treasury account has five subaccounts (one for each military department, one for the Defense Commissary Agency, and a Defense-wide account).

Other types of facility assets and resources can be included in or excluded from the formula. For example, family housing assets and resources can be included in both the numerator and denominator or excluded, depending on the purpose of an analysis. Overseas facilities typically recapitalized by host nations are another example. These and other “specialized” facility assets have traditionally been excluded by removing the associated plant replacement value from the formula; however, they could be included if the investment that supports the facilities can be determined.

Identification of Recapitalizable Assets

The entire DoD facilities inventory exceeds \$600 billion in plant replacement value.⁵ When arrayed by primary recapitalization funding source, DoD facilities fall into five categories (see Figure 3). Approximately 14 percent of the facilities held by the Department have no recapitalization requirement. Examples include facilities scheduled for disposal, single-use facilities, and leased facilities for which recapitalization is included in the lease rates. According to current plans and policies, the remaining 86 percent of facilities will need to be recapitalized at some point using either appropriated funds or funds from other sources.

Of those facilities that have a recapitalization requirement (approximately \$550 billion measured in PRV), about 78 percent (representing about \$428 billion in PRV) currently appear to be covered by the FRM, meaning that the data exist and are structured to support the use of the metric. These facilities are ones that are funded for recapitalization *primarily* through the military construction appropriation. (These same facilities also receive recapitalization contributions from the O&M account and working capital funds.)



Source: OSD FAD data as of September 30, 2001.

Note: This figure shows the primary source of recapitalization funding for each portion of the PRV in the Department's real property records. These funding sources are often complemented by other resources such as O&M and DWCF restoration and modernization funds.

Figure 3: Facilities by Primary Source of Recapitalization Funding

The 2002 front-end assessment determined that the recapitalization-rate methodology is applicable to all programs regardless of funding source, but that programs funded primarily from sources outside the military construction account (i.e., by family housing, procurement, or non-appropriated funds, or by foreign or international organizations) are not currently structured to support use of the FRM in the Planning, Programming, and Budgeting System (PPBS). This determination was made following consultations with experts within each specialty area. The

⁵ Plant replacement value is the only available metric for measuring the DoD physical plant as a whole, since facilities come in many different units of measure (square feet, tons, gallons, kilowatts, etc.).

main barrier to incorporating the specialty areas into the overall recapitalization rate metric is a lack of reliable funding forecasts for the associated recapitalization resources. Table 1 shows, for each primary funding source, whether the FRM is applicable, whether data are available to support its use, and whether plans exist to expand the metric to specialty areas not yet covered.

Table 1: Recapitalization Metric Applicability and Data Availability

Primary Recapitalization Funding Source	Is the Metric Applicable?	Are Data Available for PPBS 04-09?	Plan for Incorporation? / When?
MilCon / O&M / DWCF	Yes	Yes	Yes / FY 2004-2009 PPBS cycle
Family Housing	Yes	No	Yes / See Appendix C, issue 10
Funds not Appropriated	Yes	No	Yes / See Appendix C, issue 11
Foreign Funds	Yes	No	Yes / See Appendix C, issue 12
Procurement	Yes	No	No / See Appendix C, issue 13

Application of the Metric to Recapitalization Requirements

The recapitalization metric appears to have near-universal applicability as a macro-level tool. Application of the raw rate (the number of years) at lower levels of detail, however (such as to assess recapitalization programs for specific types of facilities, specific appropriations, or small sub-components of DoD) is inappropriate in the absence of a specific target recapitalization rate suitable for the lower level of detail.

For example, application of the recapitalization rate to assess recapitalization programs for a large and diverse inventory of facilities at the DoD or service level—for which the recapitalization requirement has been estimated to be 67 years on average—is appropriate.⁶ Casual use of the raw rate against a small and highly concentrated inventory of facilities, however, may lead to erroneous conclusions. The proper recapitalization rate for a small subset of facilities would not be the DoD-wide 67-year average. It could be greater or less than 67 years, depending on the type of facilities being assessed.

Demonstration of the Metric

Table 2 shows how the recapitalization metric could be applied to the FY 2003-2007 President's Budget FYDP. The presentation is limited to the four military services and addresses only those facilities recapitalized primarily with military construction, O&M, and DWCF resources.

⁶ Revalidation of the 67-year average requirement is beyond the scope of this front-end assessment.

Table 2: Facility Recapitalization in the FY 2003-2007 President’s Budget FYDP (TY\$M)

Row	Service-Wide	FY03	FY04	FY05	FY06	FY07
1	New Footprint (MilCon)	1,248	1,598	1,541	2,614	3,371
	Restoration and Modernization					
2	MilCon	2,029	2,287	3,142	4,114	4,928
3	O&M-Like	<u>842</u>	<u>917</u>	<u>1,192</u>	<u>2,078</u>	<u>2,203</u>
4	Total, Restoration and Modernization Funding	2,871	3,204	4,333	6,193	7,131
5	Recapitalizable Plant Value	426,776	435,301	444,858	454,116	464,744
6	Recapitalization Rate (years)	149	136	103	73	65
7	Funding Shortfall for 67-Year Target	-3,499	-3,293	-2,307	-585	194

Note: Numbers may not add to totals due to rounding.

A description of the resources included in each category is provided below.

Row 1 – New Footprint (MilCon). This row shows the military construction resources budgeted for the acquisition of new facilities during FY 2003-2007. These are not recapitalization resources—they will not be used to replace or modernize existing facilities. Rather, the resources will fund the acquisition of additional facilities (which, in turn, will generate a sustainment and recapitalization “tail”). The addition of new footprint is a legitimate means of eliminating space/capacity deficiencies at many locations. The redirection of new footprint resources to recapitalization would improve the recapitalization rate.⁷

Row 2 – Restoration and Modernization (MilCon). This row shows the military construction resources that will be used to recapitalize existing facilities through the replacement or renovation of properties. The military construction account is the primary source of recapitalization funding in DoD (although many other sources contribute as well). These resources support a variety of programs in the DoD budget and are therefore dispersed throughout the FYDP in multiple program elements.

Row 3 – Restoration and Modernization (O&M-Like). This row reflects the operations and maintenance resources budgeted for recapitalization of defense facilities through the replacement or extensive renovation of aging properties. (The replacement of facilities using O&M resources is limited by law to minor projects.) In many cases, the product of an O&M-funded repair project is indistinguishable from that of a MilCon-funded repair. Resources in this category are termed “O&M-like” because some are not true O&M dollars—the recapitalization metric also includes military pay and working capital funds that contribute to recapitalization. This portion of the recapitalization investment is critical to near-term readiness because it provides much-needed flexibility to deal with unforeseen emergencies during budget execution.

Row 4 – Total Restoration and Modernization Funding. This row—the sum of rows 2 and 3—reflects the total recapitalization investment.

⁷ For example, if instead of adding capacity, a project included an offsetting demolition activity, it would be categorized as a recapitalization investment. Alternatively, the project could reuse an existing facility rather than add a new one. In either case, the cost would be slightly higher due to higher demolition or renovation costs, but the recapitalization rate would improve and overall inventory costs would be reduced since the project would eliminate or reuse underutilized capacity and would avoid creating a new sustainment and recapitalization “tail.”

Row 5 – Recapitalizable Plant Value. This row identifies the resources needed to replace existing assets at today’s standards and costs, using per-unit cost factors and area costs. The “recapitalizable” plant value is a subset of the whole plant (i.e., the replacement cost of the entire DoD physical plant is more than \$600 billion, although only \$427 billion is shown here). The “missing” \$200 billion in assets consists of:

- Facilities for which there is no recapitalization requirement. These include “one-time use” facilities as well as facilities scheduled for demolition or disposal.
- Facilities that currently are recapitalized using specialized methods or metrics, or for which future recapitalization funding cannot currently be estimated. Examples include family housing and associated infrastructure; strategic missile launch sites; facilities funded through user fees; privatized facilities; foreign-, internationally-, and privately-funded facilities; and missile, aircraft, and ammunition production facilities.
- Facilities supported by defense agencies, as a result of a lack of adequate real property records and an inability to track funding.

Row 6 – Recapitalization Rate (Years). The recapitalization rate reflects the number of years it would take to regenerate a physical plant—either through replacements or major renovations—at a given level of investment. The recapitalization rate is computed by dividing “recapitalizable” PRV (Row 5) by total restoration and modernization investments (Row 4). Ideally, the recapitalization rate equals the expected service life of the assets being assessed (meaning that once during each service-life cycle, reinvestments total the replacement value of the assets). More simply, this is the typical inventory management technique of “rolling” replacements to keep the entire inventory operational and up to date. As such, this metric is routinely used outside DoD for capital asset management and is often employed in areas other than facilities.⁸

Row 7 – Funding Shortfall to Achieve the 67-Year Recapitalization Target. The bottom line of this analysis is the cost differential between the recapitalization rate funded in the FY 2003 President’s Budget FYDP and the rate necessary to achieve facilities’ expected service lives. By this measure, the President’s Budget FYDP results in a shortfall in FY 2003 but enables DoD to achieve the target rate by FY 2007.

⁸ An Internet search revealed that the replacement-cycle metric is commonly employed in the management of vehicle fleets, computer systems, and other capital assets for which service life can be estimated.

Data Collection and Displays Supporting Application of the Metric

This front-end assessment has identified a means of collecting the data needed to implement the FRM, with only minor modifications to standard data submissions. The data required for the metric will be processed and displayed in the Defense Programming Data Warehouse in the format shown in Appendix D. DoD components will provide all of the data (except for some planning and design funds centrally managed by the DoD Comptroller) used to calculate recapitalization rates for the FY 2004-2009 PPBS cycle. Seven types of data will be needed (see Table 3):

1. PRV for facilities that components intend to recapitalize (PRV_R);⁹
2. Military construction funding for major “existing footprint” projects;¹⁰
3. All unspecified minor construction funding;
4. Planning and design (P&D) funds supporting “existing footprint” military construction projects;
5. Restoration and modernization resources in the defense working capital funds;
6. Restoration and modernization resources in the military personnel accounts;¹¹
7. Restoration and modernization resources in the O&M accounts.

Table 3: Methods of Data Submission

Data Type	Submission Method
1	Select and Native Programming (SNaP) Data Input System per program data requirements. ^a
2-4	C1 data input system. ^b The C1 input system is being enhanced for the FY 2004-2009 PPBS cycle to support data collection for the FRM.
5-7	Future Years Defense Program submission. These resources will be identified by FYDP program element and sub-activity group and will be provided by reporting organizations using the Standard Data Collection System.

a. See the SNaP web site at <https://snap.pae.osd.mil> for current information.

b. The one exception is that the Office of the Under Secretary of Defense (Comptroller) will provide data on P&D resources that it manages for the Department.

⁹ See Appendix B.

¹⁰ For FY 2004-2009, use the “preponderance rule.” See Appendix A and issue #6 in Appendix C for detailed instructions.

¹¹ Based on the 1999 Facilities Front-End Assessment and related work establishing S/RM FYDP program elements, it appears that about 49 percent of military personnel appropriations programmed for Facilities Restoration and Modernization program elements will be used to recapitalize facilities.

Issues, Solutions, and Unfinished Business

This assessment has worked through and resolved a number of specific issues. The issues fall into five major categories:

- Plant replacement value calculations and forecasting.
- Responsibilities and coordination among components.
- Recapitalization investments from nontraditional sources.
- Identification of “new footprint” facility acquisitions.
- Data submission requirements, standards, and schedules.

The background, proposed solutions, and status of these issues are discussed in detail in Appendix C. Not all of the issues have been resolved—some follow-on activities will be needed to accomplish the remaining tasks. For example, for the FY 2004-2009 PPBS cycle, coverage of the FRM is limited to the military construction and O&M accounts and the working capital funds. This assessment did, however, verify the applicability of FRM to facilities supported by all funding sources and has proposed follow-on activities to accommodate the remaining facilities and corresponding recapitalization sources in the metric (see Appendix C).

The unfinished business could raise uncertainties about the accuracy of FRM in the near term. Such concerns, however, are unwarranted because any gaps caused by unfinished business are minor in comparison to the large gap between the current recapitalization rate (136 years in FY 2004) and the target recapitalization rate based on expected service life (67 years on average). There is still time to fine tune and expand FRM while working to achieve the 67-year target rate by FY 2007.

Conclusions and Recommendations

Proper support of combat forces requires day-to-day facilities readiness as well as modern facilities relevant to future operations and services. The FRM provides a standard, DoD-wide tool for assessing the adequacy of investments aimed at preventing obsolescence and preserving the relevance of existing facilities to future missions. For recapitalization typically funded by military construction, O&M, and working capital resources, the metric is ready and usable for the FY 2004-2009 program and budget cycle.

The metric is designed as a macro-level tool and thus cannot be used to assess recapitalization projects for single facilities. Although the measure can be applied to smaller, more specialized inventories, the target rate would have to be adjusted for such comparisons. The DoD-wide average recapitalization goal of 67 years is appropriate for assessments at the macro (department and service) level only.

The FRM, like the FSM, is fundamentally dependent on adequate information on real property inventories. Inventory data must not only be timely and accurate; it must allow for precise sorting of holdings by recapitalization responsibility. Given DoD’s complex funding structures—characterized by multiple funding sources and multiple organizational

responsibilities at a single installation—precise sorting of the inventory by recapitalization responsibility is the *only* way to link recapitalization and sustainment requirements to resources in the FYDP. In this regard, an update to DoD Instruction 4165.14, providing reporting guidelines for real property, is vital to successful utilization of the FRM. In addition, DoD components must commit sufficient resources (funding and personnel) to satisfy the guidance set forth in the instruction.

Since plant replacement value is a major element of the FRM, the PRV working group needs to finish its work and DoD components need to improve their PRV forecasting capabilities. Of particular importance is the expansion of standard construction cost factors to cover 100 percent of the facilities in the inventory. Pending these enhancements, DoD components must provide better analytical support for forecasting, as opposed to making straight-line projections of the physical plant. This will entail closer sharing of information between the military services and defense agencies.

The recapitalization and sustainment metrics are applicable to all facilities and all organizations, although certain elements of the Department have traditionally been managed and assessed independently. In general, it would make sense to expand the application of FRM and FSM to all facilities, regardless of funding source, so that the Secretary of Defense could evaluate the Department's entire facilities inventory with a universal methodology. Appendix C provides recommendations for implementing these enhancements.

Finally, and most important, the recapitalization rate metric should *not* be used in isolation. It should be employed in conjunction with the Facilities Sustainment Model to ensure that new and recapitalized facilities deliver adequate performance and provide a full return on investments over their expected service lives. In addition, the Installations Readiness Report should be used with the FRM to help target specific investments at the project level and, where necessary and affordable, to accelerate the recapitalization rate and restore readiness sooner for specific facility groups.

Appendix A: Terminology

Current Mission: A restoration, modernization, or new footprint requirement associated with existing missions at a particular location.

Existing Footprint: Facilities currently in the inventory.

Expected Service Life (Recapitalization Target): The number of years that facilities would be expected to provide adequate performance, *given full sustainment*, before wearing out or becoming obsolete.

Modernization: Alteration of facilities solely to implement new or higher standards, to accommodate new functions, or to replace building components that exceed the overall service life of the facilities.

New Footprint: The acquisition of a new facility to offset a space or capacity deficiency.

New Mission: A restoration, modernization, or new footprint requirement driven by a change of mission at a particular location.

Plant Replacement Value: The cost of replacing an existing facility with a facility of the same size at the same location, using today's building standards.

Preponderance Rule: If an individual project increases the gross size of a facility by 50 percent or less, the entire project is characterized as "existing footprint." If the change is greater than 50 percent, a determination must be made as to whether the project is being conducted in conjunction with a reduction in footprint elsewhere. If the increase in footprint is tied to an offsetting reduction at some other location, the project is deemed "existing footprint." If the project is being pursued independent of reductions elsewhere, it is categorized as "new footprint."

Recapitalizable Plant Replacement Value: That portion of the facilities inventory that has a continuing mission and must be recapitalized at some point.

Recapitalization: Major renovation or reconstruction activities, including replacement of individual facilities, necessary to keep an existing inventory of facilities modern and relevant in an environment of changing standards and missions. Includes both restoration and modernization. Excludes sustainment and new acquisitions.

Recapitalization Rate: The number of years it would take to regenerate a physical plant—either through replacement or major renovation(s)—at a given level of investment.

Restoration: Repair and replacement work to fix facilities damaged by inadequate sustainment, excessive age, natural disasters, fires, accidents, or other causes.

Sustainment: Maintenance and repair activities necessary to keep an inventory of facilities in good working order. Includes regularly scheduled maintenance as well as anticipated major repairs or replacement of components that occur periodically over the expected service life of the facilities.

Appendix B: PRV Business Rules and Forecasting

Facilities Recapitalization Plant Replacement Value

Component	PRV Facility Type	PY-1	PY	CY	BY1	BY2	BY2+1	BY2+2	BY2+3	BY2+4
Active	Operations and Training	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K
Guard	Maintenance and Production	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K
Reserve	Research, Development, Testing, and Evaluation	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K
	Supply	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K
	Hospital and Medical	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K
	Administrative	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K
	Family Housing	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K
	Unaccompanied Personnel Housing	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K
	Community	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K
	Utilities and Ground Improvements	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K	\$K

NOTES: PY = prior year; CY = calendar year; BY = budget year.

Instructions for Completing the Real Property PRV Database

1. Report programmed levels of physical plant by facility class/category group. The programmed level is the calculated amount needed to replace the “recapitalizable” physical plant (see note 3) using the current standard from the *DoD Facilities Cost Factors Handbook*. Apply the cost factor provided by OUSD(AT&L) for the area that is nearest to the vicinity in question or use the state average. Do not use the parent or primary installation area cost factor.
2. If another methodology was used, provide a description of the procedures followed.
3. Report the “recapitalizable PRV” (PRV_R). PRV_R must meet the following three criteria: (1) facilities represented by the PRV have a continuing mission (i.e., they will not be disposed of and thus will need to be replaced at some point); (2) the reporting component for the PRV has recapitalization responsibility; and (3) recapitalization of the PRV would be accomplished with appropriated funds, working capital funds, or a combination of both. Ownership is not relevant.
4. Do not make any adjustments for BRAC 05.
5. Provide business rules in an MS Word document that, when applied to FY 2001 real property data in the Facility Assessment Database provided by the services, produces the PRV reported in the PY-1 column shown above.
6. Definitions:

Organization: All organizations that receive restoration and modernization funds from the military construction and/or family housing appropriations are required to report PRV in this format.

Component: The military services should report Active, Guard, and Reserve data separately.

Facility Type: Using the draft DoDI 4165.3, *Department of Defense Facility Classes and Construction Categories*, report PRV by facility class, with the exception of the Housing and Community Support class. For that class, report PRV by Family Housing, Unaccompanied Personnel Housing, and Community. Include Museums and Memorials with Community. Include in Family Housing all PRV that is funded with family housing appropriations, and deduct that PRV from the other facility classes.

Appendix C: Detailed Issues and Solutions

Issue 1: PRV computations – standard cost factors

Background. Although a formula for calculating PRV has been in place for eight years, the Department lacks a complete set of standard cost factors to use in the formula. To date, standard construction cost factors have been developed for only about 60 percent of DoD facilities. This raises the risk that PRVs will be computed inconsistently for the remaining 40 percent.

Proposed Solution. An updated formula for calculating PRV—currently being developed by a working group from OSD, the services, and selected defense agencies—should be adopted and used to support the FRM. The updated formula will include standard construction cost factors for 100 percent of the facility inventory.

Status. The working group is in the final stages of determining values for each of the cost factors. It anticipates that the new formula and factors will be available for use in recapitalization analyses in the FY 2005-2009 PPBS cycle.

Issue 2: PRV computations – lack of precision for small parts of the whole

Background. Real property records do not always distinguish among multiple funding sources for individual facilities. Nor do these records always show how funding responsibility for facilities is allocated among multiple DoD components. Take, for example, a road that begins in a military component's family housing area, passes through an area occupied by that component's units, and terminates in a Defense Logistics Agency (DLA) warehouse complex. In this instance, the military component would be responsible for maintaining those portions of the road in the family housing area and in locales occupied by its units, while DLA would have maintenance responsibility for the remainder of the road. Work on the first segment of the road would be funded with family housing appropriations; work on the second segment would be financed through the O&M (or possibly MilCon) account; and work on the last portion would be paid for with working capital (or possibly MilCon) funds. The problem is that real property records commonly do not make such distinctions. Additionally, for that segment of the road within the DLA complex, funding responsibility for roadwork lies with the Defense Logistics Agency, not the military component. Real property records also routinely fail to note distinctions of this sort. Similar problems arise for other infrastructure elements, such as sidewalks and utility lines. As a result, the FSM and FRM must use complex, component-unique business rules to approximate the distribution of responsibilities so that requirements driven by inventories can be linked to FYDP funding. The business rules are a source of potential inaccuracy, inconsistency, and confusion.

Proposed Solution. Draft DoDI 4165.14 requires that reporting organizations identify—for each facility or significant fraction of a facility—the organization using the facility, the funding source for sustainment, and the funding source for recapitalization.¹² Once these data are recorded in

¹² Draft DoDI 4165.14 requires that a fraction of a facility be separately reported only if it exceeds 1,000 square feet in size or constitutes at least 25 percent of the facility.

inventories, every organization that finances even the smallest amount of property will be visible in the DoD real property inventory and will be assigned funding responsibility for that property.

Status. The reporting requirements defined in the new DoDI are slated to be established in an interim policy memorandum by August 2002, followed by the actual publication of the DoDI. Data gathered in response to the new requirements are expected to be available by October 2004. Until then, the PRV will continue to be segregated by business rules.

Issue 3: PRV forecasts – effect of BRAC 05

Background. The effects of BRAC 05 on PRV are difficult to forecast in advance of BRAC-related consolidation studies, which have not yet begun.

Proposed Solution. The PRV forecast for the FY 2004-2009 PPBS cycle collected by SNaP will not include any adjustments for BRAC 05 but will allow for known acquisitions, disposals, and transfers.

Status. The PRV data-collection format for the SNaP Data Input System has been designed to match the proposed solution.

Issue 4 : PRV forecasts – inter-component property transfers

Background. Facilities are regularly transferred from one DoD component to another. Transfer of de facto recapitalization responsibility typically precedes transfer of de jure property accountability, often by several years.

Proposed Solution. Responsibility for recapitalization effectively shifts at the time a decision is made to transfer a property, even if the transfer of the property and supporting records is slated to occur well into the future. For the FY 2004-2009 PPBS cycle, all such transfers will be captured by the “losing” and “gaining” organizations on the PRV forecast form collected by SNaP. The soon-to-be-released DoDI 4165.14 on real property reporting will formalize the forecasting process for the future.

Status. The PRV data-collection format for the SNaP Data Input System has been designed to match the proposed solution. The new DoDI will be implemented in an interim policy memo by August 2002, followed by the actual publication of the instruction. Data gathered in response to the new requirements are expected to be available by October 2004.

Issue 5: PRV forecasts – coordination among DoD components

Background. Each military service must be cognizant of the facilities on its installations and must make forecasts of the facilities’ future use. The services have no systematic way, however, of knowing plans for facilities occupied by defense agencies or other tenants.

Proposed Solution. The forthcoming DoDI 4165.14 on real property reporting requires that the directors of defense agencies submit their forecasts to the services and/or the Washington Headquarters Services (WHS) in sufficient time for the data to be incorporated into the forecasts prepared by the military departments.

Status. Pending incorporation into the draft DoDI by August 2002. The new data should be available by October 2004.

Issue 6: Identification of new footprint – preponderance vs. proportionality

Background. Facility projects often cannot be characterized neatly as either “pure” new footprint or recapitalization. Many projects contain elements of each. Use of the recapitalization metric for analytical purposes requires that the recapitalization portion of facility investments be segregated from the new footprint portion, although recapitalization analysis must not affect the actual composition of individual projects.

Proposed Solution. For the FY 2004-2009 PPBS cycle, use the “preponderance” rule (defined on page 15). Prior to the FY 2005-2009 cycle, each service will conduct a review of its military construction programs to determine the effect of applying the preponderance rule as opposed to using actual proportions of recapitalization to new footprint. The Department will assess the results of the service reviews and determine which method is more appropriate. That method will then be employed in the FY 2005-2009 PPBS cycle and beyond.

Status. The military services have agreed to provide the results of their reviews to the OSD staff in the first quarter of FY 2003. Final results of the overall review are due by December 31, 2002.

Issue 7: Identification of new footprint – effect of location

Background. Relocation and consolidation of functions often involves inter-installation, inter-state, or inter-country changes in location. “New footprint” for an installation may not be “new footprint” when viewed on a global basis.

Proposed Solution. Assess whether a project is being done in conjunction with a reduction in footprint elsewhere during the FYDP period. If the increase in footprint is linked to an offsetting reduction at some other location, the project is characterized as “existing footprint.” Otherwise, it is designated as “new footprint.”

Status. Complete. Rule incorporated in PRV forecast table.

Issue 8: Identification of new footprint – O&M-funded new footprint

Background. Under certain dollar thresholds, new footprint construction can be financed using minor construction authorities in the O&M appropriation. The amount of new footprint funded with O&M resources may be growing due to higher thresholds and increased requirements, notably new requirements associated with force protection.

Proposed Solution. Allow the components to identify O&M resources dedicated to new footprint using FYDP program elements.

Status. The Navy is in the process of implementing this solution for the FY 2004-2009 PPBS cycle. The other services declined to participate, as they believe their investments are too small to track separately.

Issue 9: Other recapitalization sources – defense working capital funds (DWCFs)

Background. For certain types of facilities, sustainment and recapitalization are financed by working capital funds rather than by MilCon and O&M appropriations. Including these facilities in the FRM requires that DWCF funds for S/RM be forecast and available throughout the FYDP period. This concept has already been tested and implemented in the Defense Logistics Agency.

Proposed Solution. New FYDP program elements have been created for reporting planned allocations of DWCF resources for facilities sustainment and recapitalization. The services will begin reporting these data in their FY 2004-2009 program and budget submissions.

Status. Complete

Issue 10: Other recapitalization sources – family housing funds

Background. Family housing programs are affected by the data-reporting limitations discussed under Issue 2 (lack of precision for small parts of the whole). In addition, the family housing program element structure has not been analyzed or (if necessary) restructured to ensure that sustainment is properly segregated from recapitalization. Also, the family housing community has been only marginally involved in the development of sustainment and recapitalization metrics; the benchmarks already in place need to be more thoroughly evaluated by this community. Finally, in the near term (FY 2004-2007), family housing requirements are being driven by master plans that include recapitalization and privatization initiatives; these initiatives respond to a Defense Planning Guidance goal of eliminating all inadequate family housing by FY 2007. Assuming that goal is met, family housing programs should revert to standard recapitalization rates, including full sustainment, in the post-FY 2007 period.

Proposed Solution. The Deputy Under Secretary of Defense for Installations and Environment (DUSD/I&E) will lead an effort to analyze the family housing program-element structure and, if necessary, adapt it to support the S/RM construct in time for the FY 2005 PPBS cycle. This will allow all facilities funded by the family housing accounts to be included in the DoD-wide recapitalization rate beginning in FY 2005. The FSM/FRM benchmarks will be analyzed by the family housing community and adjusted, as necessary, before release of the *DoD Facilities Cost Factor Handbook*, Version 6.0. The sustainment and recapitalization metrics will not be applied individually to family housing facilities before FY 2008.

Status. The plan is complete, a time line has been established, and work is underway.

Issue 11: Other recapitalization sources – funds not appropriated

Background. Facilities recapitalized with funds not appropriated also are subject to the Issue 2 constraints (lack of precision for small parts of the whole). For purposes of this discussion, “funds not appropriated” are *not* synonymous with traditional nonappropriated or “NAF” funds, but instead include all resources that do not come from defense working capital funds, host

nations, international organizations, or Congressional appropriations designated for facilities. Examples include surcharges, exchange dividends, and user fees (e.g., commissary surcharges and Morale, Welfare, and Recreation fees); donations from private individuals and organizations (e.g., the Fisher Houses at 29 defense installations); and funds from private corporations (commercial banks and concession operations on Installations). In FSM and FRM, complex business rules are used to segregate PRV and to approximate funding responsibilities. Additionally, funds that are not appropriated are not programmed in the same sense as appropriated funds, although they can be forecast. The community that manages these funds at large believes that while recapitalization rates are important and applicable to facilities financed with funds not appropriated, FRM adds little or no value in the funds-not-appropriated environment and is probably a threat. The reasons for this perception are complex and appear to be at least partially based on long-standing problems in obtaining adequate support from the appropriated funds community. Because the funds-not-appropriated area is a market-based community, recapitalization rates for these facilities are more closely related to commercial standards and are thought to be lower than rates provided by DoD appropriations. Including these facilities in the FRM would, therefore, appear to improve the overall DoD recapitalization rate and could result in even less appropriated fund support. Due to past inadequate support from appropriated funds, this community must pass on necessary recapitalization costs to its customers, essentially forcing the troops to pay the costs. Finally, some elements of the funds-not-appropriated community appear to have no real long-term strategic plan for recapitalization of facilities, but instead rely on annual prioritization of requirements within whatever funding levels are available.

Proposed Solution. For the FY 2004-2009 PPBS cycle, continue to exclude all plant replacement value associated with funds not appropriated. The Under Secretary of Defense for Personnel and Readiness should lead a separate analysis of facilities recapitalized through this means, with the goal of resolving these issues. Once the analysis is complete, the Department will reevaluate whether to include in the FRM facilities that are recapitalized with funds not appropriated.

Status. Pending approval

Issue 12: Other recapitalization sources – foreign and international funds

Background. For certain facilities, recapitalization typically is financed through contributions from U.S. allies (e.g., Korea and Japan) or international organizations (e.g., NATO) rather than through MilCon and O&M appropriations. Also, facilities in certain foreign areas are subject to the limitations under Issue 2 (lack of precision for small parts of the whole). Finally, funding forecasts from foreign and international sources are not routinely made available and are always subject to change. These vagaries could cause minor inaccuracies in the recapitalization metric for those DoD components that oversee properties funded by these sources. For these reasons, facilities funded by foreign governments and international organizations have typically been excluded from recapitalization analyses. Business rules are used to remove the associated PRV, and the investment is ignored.

Proposed Solution. For the FY 2004-2009 PPBS cycle, continue to remove PRV and ignore investments from foreign and international sources. Prior to the FY 2005-2009 PPBS cycle,

DUSD(I&E) will lead a DoD-wide evaluation of recent foreign and international expenditures for recapitalization with the goal of verifying that expanding the FRM to include foreign and international funds is both appropriate and feasible. Once the analysis is complete, the Department will reevaluate whether to include in the FRM facilities that are recapitalized with foreign and international funds.

Status. Pending. No action needed now.

Issue 13: Other recapitalization sources – procurement funds

Background. For certain types of facilities, sustainment and recapitalization are financed with procurement funds rather than through MilCon or O&M appropriations. Production plants for ammunition, missiles, and aircraft are three examples. Recapitalization investments generally have not been tracked for procurement-funded facilities, making it impossible to apply the recapitalization metric to these sites at this time. Further, most of these facilities are contractor-operated, and most are scheduled for privatization or are being evaluated for privatization. Although this will be an extended process, ultimately most of these facilities will no longer be owned by DoD. For these and other reasons, procurement-funded facilities are typically excluded from recapitalization analyses.

Proposed Solution. Continue to exclude all plant replacement value associated with procurement-funded facilities.

Status. Complete

Issue 14: Other recapitalization sources – SOCOM funds

Background. The Special Operations Command funds a limited number of restoration and modernization projects at various locations. These projects benefit the military services but are not captured in the recapitalization metric.

Proposed Solution. Update the C-1 military construction database with a code that assigns SOCOM projects to the benefiting service.

Status. Too late for inclusion in the FY 2004-2009 PPBS cycle. Revisit for the FY 2005-2009 cycle.

Issue 15: Restoration and modernization program elements – MilCon funds

Background. MilCon funds for restoration and modernization typically come from the base operations support program elements, although some MilCon recapitalization funding is included in specialized program elements (such as child development or base communications) or in mission program elements. By contrast, O&M funds for restoration and modernization are contained in the restoration and modernization family of program elements.

Proposed Solution. To eliminate “stovepipe” program development and improve integration and management of the entire facilities restoration and modernization program, MilCon resources for restoration and modernization of facilities should be moved to the restoration and modernization

program elements, except for resources that support specialized programs, not encompassed within base operations support.

Status. The Navy has already begun to move resources into the restoration and modernization program elements. The other services are expected to do so before the FY 2005-2009 PPBS cycle.

Issue 16: S/RM program elements – defense agencies and field activities

Background. All the services have created FYDP program elements to track sustainment and recapitalization programs. Among the defense agencies and field activities, only the Tricare Management Activity and Defense Logistics Agency have created S/RM program elements. S/RM program elements should be established by all defense agencies and field activities that budget for these resources.

Proposed Solution. The DoD Education Activity will create program elements for the FY 2004-2009 PPBS cycle. Other defense agencies and field activities with sustainment and recapitalization responsibilities will add program elements by the FY 2005-2009 cycle.

Status. Ongoing

Issue 17: Historical preservation and recapitalization

Background. Restoration and modernization of facilities located in historic districts often costs more than recapitalization projects for other facilities. There is currently no satisfactory way to account for these additional costs in applying the recapitalization metric. A PRV working group has developed a “historical preservation factor” of 5 percent to be applied to historical facilities and non-historical facilities in historical districts.

Proposed Solution. Incorporate the working group’s proposal into the real property inventory, so that FRM will automatically reflect the cost of recapitalizing historical facilities.

Status. Ready for implementation

Issue 18: Recapitalization benchmark – average of 67 years

Background. A 1997 DoD working group identified service-life benchmarks that, when averaged and weighted by plant replacement value, produce a DoD-wide facility service-life goal averaging 67 years. The 67-year average has not been updated to reflect more recent inventory data. Also, individual benchmarks underlying the 67-year calculation have not been fully evaluated by all functional communities that could possibly be affected by a DoD-wide application of the FRM. For example, within the 67-year average, family housing service life (given full sustainment) is estimated at 75 years. The recapitalization metric, however, has never been applied to family housing, so the family housing community has had no reason to evaluate the 75-year benchmark. Also, DoD has recently been provided a more rigorous evaluation of service-life estimates conducted by the Canadian government; the results of that assessment may have application to DoD’s inventory. Finally, there is an erroneous tendency to apply the DoD

average benchmark to individual sub-components of the Department, including specialized sets of facilities.

Proposed Solution. DUSD(I&E) will continue to reevaluate the 67-year average benchmarks and their application in light of the best available information, and will continue to work with the DoD components and functional communities to ensure the most appropriate benchmarks are used.

Status. Ongoing

Issue 19: DoD practices that could limit the effectiveness of recapitalization strategies

Background. If the intent of the FRM is to allow for improved programming and execution of facilities resources, some practices commonly followed in the Department could impede realization of that intent. For example, outyear military construction programs are often funded appropriately, but are reduced as the budget year approaches. During near-term programming and budgeting activities, there also is a tendency to pit recapitalization projects against one other and against new footprint projects, thus overlooking the benefits to individual programs that are being supported. Such practices have resulted in significant funding shortfalls in the past, producing 200+ year recapitalization rates in the budget years. In the O&M accounts, execution-year migration is a common phenomenon. If not properly funded in the budget, or if military construction is chronically underfunded, restoration and modernization projects must often be carried out with sustainment funds. While this allows an urgent restoration to be accomplished, it results in the premature degradation of facilities for which the sustainment funding was originally programmed and budgeted. Likewise, sustainment funds—even when appropriately budgeted—are often reallocated, with the end result that the programmed money never reaches the intended installations and sustainment projects are not carried out. Lack of sustainment produces even higher restoration and modernization requirements, perpetuating the funding migration.

Proposed Solution. DUSD(I&E) and PA&E will examine these and other practices and make recommendations to improve the effectiveness of recapitalization strategies.

Status. Pending

Appendix D: Defense Programming Database Warehouse—Facilities Recapitalization Rate Display

Facilities Recapitalization Rate

Facilities Recapitalization Rate (Years)		FY04	FY05	FY06	FY07	FY08	FY09

Input Data (TY\$M)		FY04	FY05	FY06	FY07	FY08	FY09
PRV of Inventory Recapitalized ^a							
Recapitalization Investments	Funding Source						
Existing footprint - major projects ^b	MilCon						
Unspecified minor construction	MilCon						
P&D supporting "existing footprint" projects	MilCon						
Restoration and Modernization	DWCF ^c						
Restoration and Modernization	O&M						
Restoration and Modernization	MilPers						
Total Recapitalization Investment							

NOTES: This table shows the recapitalization rates of facilities for which the military construction account is the primary source of recapitalization funding.

MilCon = military construction; MilPers = military personnel; O&M = operations and maintenance; P&D = planning and design;

PRV = plant replacement value; DWCF = Defense Working Capital Fund

a. PRV_R must meet the following three criteria: (1) the facilities represented by the PRV have a continuing mission (i.e., they will not be disposed of and thus will need to be replaced at some point); (2) the reporting component for the PRV has recapitalization responsibility; and (3) recapitalization of the PRV will be accomplished with appropriated funds, working capital funds, or a combination of both. Ownership is not relevant.

b. Existing footprint is determined using the "preponderance rule." If an individual project increases the gross size of a facility by 50 percent or less, the entire project is characterized as "existing footprint." If the change is greater than 50 percent, a determination must be made as to whether the project is being conducted in conjunction with a reduction in footprint elsewhere. If the increase in footprint is tied to an offsetting reduction at some other location, the project is deemed "existing footprint." If the project is being pursued independent of reductions elsewhere, it is categorized as "new footprint."

c. The Defense Working Capital Fund combines, into a single managed fund, commercial or business operations that previously were managed as individual revolving funds. The Fund Treasury account has five subaccounts (one for each military department plus a Defense-wide category).